EFFORTS TO IMPROVE MATHEMATICS LEARNING ACTIVITIES USING COOPERATIVE LEARNING MODELS NUMBERED HEAD TOGETHER (NHT) TYPE IN CLASS VII SMP

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ABSTRACT

Learning mathematics is still a lesson that is considered difficult for students. Student activities also seemed to be still low in class VII-D in the even semester of SMP Negeri 1 Imogiri. Bantul Regency. This study aims to improve mathematics learning activities using the Numbered Head Together (NHT) type of cooperative learning model for seventh-grade students in the even semester of the SMP Negeri 1 Imogiri in Bantul Regency 2018/2019 academic year. This research was included in the classroom action research consisting of two cycles. This study's settings were students of class VII-D State Junior High School (SMP Negeri) 1 Imogiri Bantul Regency 2018/2019 academic year. Data collection in this study uses observation methods and interview guidelines. The instruments in this study used observation sheets and interviews. The data analysis technique in this study used a qualitative descriptive method. The results showed that the Numbered Head Together type of cooperative learning model could improve students' mathematics learning activities in class VII-D SMP Negeri 1 Imogiri Bantul Regency 2018/2019 academic year. This is evident from the results of observations of mathematics learning activities of students who experienced an increase in each cycle and a positive response from the results of teacher and student interviews. In the first cycle, the percentage of students' mathematics learning activities was 60.75%, and in the second cycle, the average percentage of observations of student activities increased by 75.47%. The results of interviews obtained information that, in general, students are interested and feel happy in learning mathematics using the cooperative learning model Numbered Head Together.

Keywords: Classroom Action Research (CAR), Learning Activities, Numbered Head Together (NHT)

INTRODUCTION

Education is a right for every citizen, especially children at school age, and is an obligation for the government and parents to provide adequate educational facilities. Efforts to develop human potential can be pursued through education. Education as a business is carried out in a planned, directed, integrated, and can allow students to develop all their potential. The implementation of education in Indonesia is carried out through education channels and levels of education. The education pathway consists of formal education pathways, non-formal education pathways, and informal education pathways. One formal education is at the level of junior high school (SMP). Education in junior high is done through learning. One of the subjects taught in junior high in mathematics. Mathematics is one of the subjects taught at every level of education in Indonesia, namely primary education to secondary education, even to universities. Mathematics is a science that is used to solve various kinds of problems encountered in daily life. Mathematics subject is considered to have an important role in shaping students to be quality because mathematics is a means of thinking to study something reasonable and orderly.

On Wednesday, October 24, 2018, based on observations made by researchers at SMP N 1 Imogiri, Bantul Regency, when the learning process took place, students still looked passive, the mathematics teacher also used the lecture method in the delivery of material, in the learning process was still centered on the teacher so that it was less the interaction in these learning activities. The teacher also has not implemented a learning model that can increase student activity. As a result, students feel

bored in following mathematics lessons. Students tend to do other activities that attract students' attention. So that student interaction, collaboration with friends, and student activities are less visible.

Students are more dominant in listening to the teacher's explanation, discussing questions together, and writing down what the teacher writes on the board. When the teacher asks a question, only a few students actively answer. Some other students tend to be quiet and chat with their peers. Until now, there are still many students who think that mathematics is complicated. This is because mathematics is one of the subjects whose material has abstract characteristics. It is this abstract that makes one say mathematics is a difficult subject to learn. One of the successes of learning mathematics in class VII can be seen from the value of the Mid-Semester Assessment (Midterm) mathematics subjects where there are still many students whose grades are less than Minimum Completeness Criteria (MCC) ≥ 75 in-class VII students at SMP Negeri 1 Imogiri Bantul Regency Even Semester 2018/2019.

A learning process requires a method that involves students' role in teaching and learning activities to increase mathematics learning activities and mathematics learning outcomes. One learning model that actively involves students in the cooperative learning model. According to Slavin in Priansa, Donni Juni (2015: 260) namely: Cooperative learning is a model or reference of learning wherein the learning process that takes place, students can learn and work in small groups collaboratively with members consisting of 4 to 6 people, heterogeneous group structures or with different characteristics. It is time to apply a learning model that is expected to increase student mathematics learning activities. There are several types of cooperative learning models, including Numbered Head Together (NHT). According to Suprijono in Priansa, Donni Juni (2015: 260) stated Learning using NHT is learning that begins with numbering because the teacher divides the class into small groups. Then each group member is numbered according to the number of group members. Researchers are interested in applying the NHT type cooperative learning model because learning activities involve more students in mathematics learning. The NHT model has a special characteristic, with the teacher appointing students by mentioning any number to represent their group in answering questions.

RESEARCH METHOD

This type of research used in this study is Classroom Action Research (CAR). This class action research was conducted in two cycles. According to Arikunto (2009), in-class action research, four stages need to be done, namely (1) planning action, (2) implementing the action, (3) observing, (4) reflecting. This study's setting was grade VII-D students of SMP Negeri 1 Imogiri, Bantul Regency, in the 2018/2019 school year. Data collection in this study uses the method of observation and interview guidelines. The instruments in this study used observation and interview sheets. Data analysis techniques in this study used descriptive qualitative methods. As for the observation sheet of the student activity sheet can be seen in the table:

Table 1. Lattice Observation Sheet for Student Activities Using Numbered Head Together (NHT) Cooperative Learning Models

No	Indicator	Item Number
1.	Enthusiastic students in participating in learning.	a1,a2,a3,a4,
2.	Student interaction with the teacher	b1,b2,b3,b4
3.	Interaction between students	c1,c2,c3,c4
4.	Group collaboration	d1,d2,d3,d4
5.	Student activities in groups.	e1,e2,e3,e4
6.	Participation of students in concluding the results of the discussion.	f1,f2,f3,f4

The way to calculate the percentage of student learning activities during the learning process is as follows:

$$P = \frac{nm}{N} X\ 100\%$$

Information:
P = percentage of student activity
nm = the number of items checked from each aspect of the checklist
N = the sum of all items from each aspect of the checklist

(Slameto, 2001)

The criteria values of P can be seen in Table 6 below:

Table 4. Criteria Value P

Percentage	Category
PAS < 60 %	Not active enough
60 % ≤ PAS < 70 %	Quite active
70 % ≤ P < 85 %	Active
PAS ≥ 85 %	Very active

Source: Arikunto, Suharsimini dkk, (2009)

RESULTS AND DISCUSSION

The results of classroom action research in cycle I and cycle II regarding mathematics learning using NHT type cooperative learning models showed an increase in students' mathematics learning activities. This is shown from the results of observations of student learning activities in cycle I and cycle II. The results of observations of student learning activities in mathematics learning have increased in every aspect. This can be seen in the following table:

Table 11. Improvement of Student Mathematical Learning Activities Based on Results Observation

No	Aspects / Indicators	Percentage		Information
		Cycle I	Cycle II	
1.	Enthusiastic students in participating in learning.	60,41%	76,66%	Increase
2.	Student interaction with the teacher	59,16%	75,41%	Increase
3.	Interaction between students.	59,99%	77,49%	Increase
4.	Group collaboration	63,33%	75,41%	Increase
5.	Student activities in groups	60,83%	74,16%	Increase
6.	Participation of students in concluding the results of the discussion.	60,83%	73,74%	Increase
Average		**60,75%**	**75,47%**	

Based on the results of the student learning activity sheet, student learning activities have increased after the implementation of the NHT type of cooperative learning model with an average percentage of the cycle I 60.75% and cycle II increased to 75.47% for more details will be presented in the following graph:

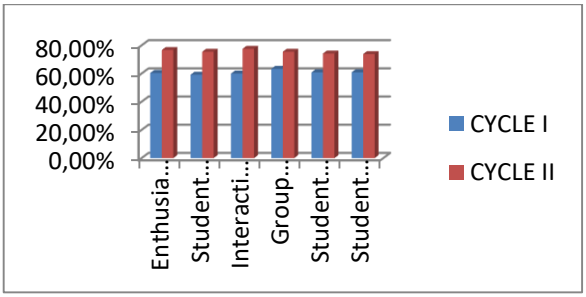

Figure 1. Graphic increasing the percentage of student learning activities based on each cycle.

Judging from the analysis of student learning activities above in mathematics learning in cycle I and cycle II, which increased and from cycle I to cycle II. Cycle I addressed the average percentage of

student learning activities still within the criteria of Enough and in the second cycle showed an average percentage of student learning activities had reached ≥61%, meaning that student learning activities in mathematics learning had reached the criteria of Good. Likewise, with the interview results, it can be concluded that learning mathematics by using the NHT type of cooperative learning model can make students more easily understand the learning material because students play an active role in learning activities. Students are also more active in exploring the material by exchanging ideas with friends.

CONCLUSION

The use of NHT type cooperative learning models can increase student learning activities. This is evident from the average results of the observation sheet of students' mathematics learning activities that have increased in the first cycle and obtained 60.75% (Enough). In the second cycle, it increased to 75.47% (Good). Likewise, the results of student interviews that showed an increase in activity in learning mathematics. Overall, it can be concluded that mathematics learning through the NHT type of cooperative learning model can be used as an effort to improve mathematics learning activities for students of class VII-D of SMP Negeri 1 Imogiri, Bantul Regency in the academic year 2018/2019 and get positive responses from students and teachers, thus the action hypothesis on proven researchers. So, indicators of researcher success are accepted.

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